REMARKS

The withdrawal of the final rejection as made in the Office Action mailed December 29, 2004, is noted with appreciation. Also, the specific withdrawal of the rejection of claim 2 under 35 U.S.C. §112, second paragraph, is noted with appreciation.

Claims 1, 3 and 6 to 10 appear in the application. This amendment proposes minor amendments to claims 1 and 10 in response to the rejection of those claims as being indefinite. In addition, the limitations of claim 2 have been incorporated into claim 1, and claim 2 has been canceled. These amendments, however, raise no new issues and reconsideration of the application is respectfully requested based on the following remarks.

Claims 1 and 10 were rejected under 35 U.S.C. §112, second paragraph, for the reason that there was no antecedent basis for the limitation of "the ID" (several occurrences). Following the suggestion of the Examiner as made in the last Office Action with respect to claim 2, the definite article "the" has been changed to the indefinite article –an–, where appropriate. In addition claim 1 has been amended to recite "a memory in which a table indicating a correspondence between IDs (Identifier) of the plurality of telephones and corresponding ones of the private IP addresses is stored". Claim 10 has been similarly amended. As amended, the rejection is believed to be overcome and withdrawal of the rejection is respectfully requested.

Claims 1 to 3 and 6 to 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,393,017 to Galvin et al. in view of RFC 1531 by Droms, both newly cited in the Office Action mailed June 27, 2005. This rejection is respectfully traversed for the reason that the combination of Galvin and Droms fails to suggest or otherwise teach the claimed invention.

The claimed invention addresses a problem in Voice over Internet Protocol (VoIP) telephony involving the use of public and private Internet Protocol (IP)

addresses in connection with communications between the Internet and one of a plurality of telephones connected to the Internet via a Local Area Network (LAN). As shown in Figure 7, a private IP address may be assigned to each of a plurality of telephones 200, 201 connected to a LAN 1, and the addressing of each such telephone may be converted between a private IP and a global IP address. A router 3 with Network Address Translator (NAT) functionality may be used to perform the necessary conversion and employed to enable a LAN-connected telephone 200, 201 to call an external telephone 510 over the Internet 2. A LAN-connected telephone 200, 201 may, however, be unable to receive a call directly from an external telephone 510 connected to the Internet 2, even if the caller using the external telephone 510 knows the private IP address of the internal telephone 200, 201 within the LAN 1, because the operation of a security mechanism known as a firewall may prevent an external telephone 510 from directly addressing telephones 200, 201 connected to the LAN 1. In addition, a private IP address would not be recognized by the Internet name server 501.

The claimed invention solves this problem by providing a telephone controller 100 which includes an IP address allocating circuit that allocates a private IP address to each of a plurality of LAN-connected telephones 200, 201. The controller 100 further includes a memory 130 that stores a table 131 of the correspondence between the ID 412 (see Figure 5) of each LAN-connected telephone 200, 201 and its private IP address. A control circuit 110 controls the interchange between the plurality of LAN-connected telephones 200, 201 and the Internet 2 using the private IP addresses. The telephone controller 100 is placed between the router 3 and a LAN-connected telephone 200, 201 and, following the protocol illustrated in Figure 8, makes it possible for a LAN-connected telephone 200, 201 to receive a direct call from an external telephone 510 connected to the Internet 2, provided the external caller employs the ID 412 (Figure 5) recognized by the telephone controller 100. As shown in Figure 5, the ID 412 includes the domain name 302 of the telephone controller 100, recognizable by the Internet

name server 501, and identification information (which may include a user name 300 and extension telephone number 301), recognizable by the telephone controller.

Galvin et al. discloses a virtual private branch exchange (PBX) system that routes calls within a packet-switching network. The virtual private branch exchange system associates the user's private branch exchange extension with the network address and routes calls to the user's (PBX) extension to the data device on the basis of the network address of the data device. The virtual PBX system 100 interfaces with a standard telephony network 116 and includes data devices 102 and 104 (e.g., Personal Computers or PCs), a packet-switching network 106, one or more processors 108, one or more object storage databases 110, one or more directories 112, and one or more databases 114. The data devices 102 and 104 preferably include microphones and speakers or other suitable equipment for sending and receiving voice messages over the packet-switching network 106. The data devices 102 and 104 may also be portable devices for wireless communication with the packet-switching network 106 and for sending and receiving voice data over a Packet-Switching Network (PSN). The data device 102 includes an agent 103, and the data device 104 includes an agent 105. The agents 103 and 105 are software (e.g., Web browser software) or circuitry for allowing users to send and receive voice packets through the data devices 102 and 104, respectively, to the packet-switching network 106. As shown in FIG. 1, the packet-switching network 106 can be interfaced to a Public Switched Telephone Network (PSTN) through a gateway such as the packet network telephony gateway 128.

The traditional telephony network 116 includes one or more PBXs 118, telephones 120, a PSTN 122, fax machines 124, modems 126, one or more packet network telephony gateways 128, and one or more Application Call Processing (ACP) systems 130. The packet network telephony gateway 128 connects the packet-switching network 106 to the PBX 118 and the PSTN 122. The packet

network telephony gateway 128 receives information from the packet-switching network 106 and converts the information to a form compatible with the PBX 118 and/or the PSTN 122. The packet network telephony gateway 128 also receives information from the PBX 118 and the PSTN 122 and converts such information into a form compatible with the packet-switching network 106. Thus, the packet network telephony gateway 128 serves as an interface between the packet-switching network 106 of the virtual PBX system 100 and the conventional telephony system 116.

The Examiner states:

"Galvin does not disclose *expressly* an IP (Internet Protocol) address allocating circuit which allocates a private IP address to each of the plurality of telephones. Galvin also does not disclose *expressly* the limitation that the correspondence between IDs and the private IP addresses is stored in a single table." (emphasis added)

The use of the adverb "expressly" is objectionable in so far as the Examiner seems to suggest that Galvin et al. might "imply" these features when, in fact, there is no suggestion in Galvin et al. for them. The Examiner's citation of column 7, lines 50–62, of Galvin et al. does not suggest these features but merely states that the data structures shown in Figures 2–4 are provided "by way of example" and continues as follows:

"For example, a separate record may be used to link user' aliases to their group ID numbers. In that case, separate extension alias records, extension locations records, and packet network locations records can be created for each group and populated only with information for the corresponding group. Additionally, if each user has a unique user extension number, then the group ID numbers can be eliminated entirely."

In the present invention, when an extension number is registered on a telephone, a nickname is automatically generated and a unique name on the Internet is allocated to permit communication.

In Galvin et al., a user name on the Internet is formed by making a telephone number and a nickname correspond (see Figures 5 and 6). However, in Galvin et al., there is no description of the concept of sequences of a terminal and a main apparatus (PBX) and frames in which, when an extension number is input to a telephone, a domain is acquired from the main apparatus (PBX) to generate a nickname automatically. This concept is shown in Figure 3, and subsequent drawings, of the present application.

In Galvin et al., terminal settings are carried out to the PBX itself to solve a problem of IP addresses. Thus, Galvin et al. cannot provide a service with a simple installation, while the claimed invention can provide a service with a simple installation that a terminal is located on a floor on a user side and the terminal can be used as an extension phone if "100" is input, since the terminal is an extension phone of "100".

In Galvin et al., a problem of the address of the terminal for the Internet communication through the main apparatus is the subject matter. There is no idea or notion in Galvin et al. of making the installation simple.

In the claimed invention, the problem of the Internet communication address of the terminal can be solved only by inputting the extension number of the terminal, and the communication with the main apparatus or an external unit through the main apparatus becomes possible. Thus, an engineer can install the IP phone if he knows the extension number of the telephone and its installation place.

The Examiner relies on RFC 1531 for a disclosure of "a commonly used protocol for automatically configuring hosts with IP addresses among other parameters . . ." The document in question is a paper which describes what is called a Dynamic Host Configuration Protocol (DHCP) that is intended to provide configuration parameters to Internet hosts. The DHCP is described as consisting of two components: a protocol for delivering host-specific configuration parameters from a DHCP server to a host and a mechanism for allocation of network addresses to hosts. The DHCP supports three mechanisms for IP address

allocation: an "automatic allocation", in which the DHCP assigns a permanent IP address to a host, a "dynamic allocation", in which the DHCP assigns an IP address to a host for a limited period of time, and a "manual allocation", in which a host's IP address is assigned by the network administrator.

The Examiner relies on RFC 1531 for a teaching of an address allocating circuit which allocates a private IP address to each of a plurality of telephones, but no such circuit is actually disclosed in the references. The Examiner then asserts that "Galvin and RFC 1531 are analogous art because they are from the same field of endeavor of IP networking". The mere fact that prior art references are from the "same field of endeavor" does not provide license to the Examiner to combine those references in manner not contemplated or reasonably suggested by those references – there must be some basis independent of applicant's own disclosure for making the combination. Moreover, even if RFC 1531 and Galvin et al. could be combined as alleged by the Examiner, it would not result in the claimed invention.

Claim 1, as amended, recites "A telephone controller controlling a plurality of telephones connected to the Internet via a LAN (Local Area Network), said telephone controller *allowing an external telephone connected to the Internet to make a direct call to a telephone in the LAN*" (emphasis added). In other words, claim 1 is directed to the telephone controller 100 shown in Figure 7. The telephone controller comprises "an IP (Internet Protocol) address allocating circuit which allocates *a private IP address to each of the plurality of telephones*" (emphasis added). Relating back to the preamble, this is the IP address allocating circuit 122 in Figures 1, 7 and 9 and is part of the solution provided by the claimed invention which allows an external telephone connected to the Internet to make a direct call to a telephone connected to the LAN 1. The telephone controller further comprises "a memory in which *a table indicating a correspondence between IDs (Identifier) of the plurality of telephones and corresponding ones of the private IP addresses is stored*" (emphasis added). The memory 130 includes table 131 and is

also part of the solution provided by the claimed invention which allows an external telephone 510 connected to the Internet 2 to make a direct call to a telephone connected to the LAN 1. The telephone controller further comprises "a control circuit which controls communication between the plurality of telephones and the Internet *using the private IP addresses*" (emphasis added). The control circuit 110, as recited, controls communication between the plurality of telephones and the Internet by means of the private IP addresses. Claim 1 further recites that "each of the IDs includes *a domain name of said telephone controller* and identification information *composed of a user name and an extension telephone number of the telephone*" (emphasis added). Moreover, claim 1 further recites that the "memory further stores therein *a table indicating a correspondence among the ID, private IP address, extension telephone number, and user name*" (emphasis added). By this amendment, the limitations of claim 2 have been added to claim 1 so that claim 1 now additionally recites that "said control circuit *extracts the identification information from an ID received via the Internet, searches said table with the identification information to obtain the private IP address, and executes communication between a telephone to which the private IP address is allocated and the Internet*" (emphasis added).

Claim 10 has been amended with the same limitations as found in claim 1 and is patentable over the prior art for the same reasons as advanced above. Claims 3 and 6 to 9, which are dependent on claim 1 are also patentable over the prior art for the reasons advanced above.
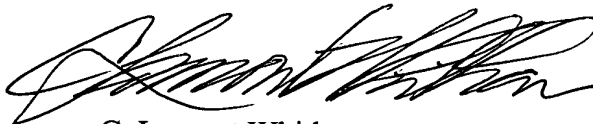
In view of the foregoing, it is respectfully requested that this amendment be entered, the application be reconsidered, that claims 1 to 3 and 6 to 10 be allowed, and that the application be passed to issue. In the alternative, it is requested that the amendment be entered for purposes of appeal.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a

telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,

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